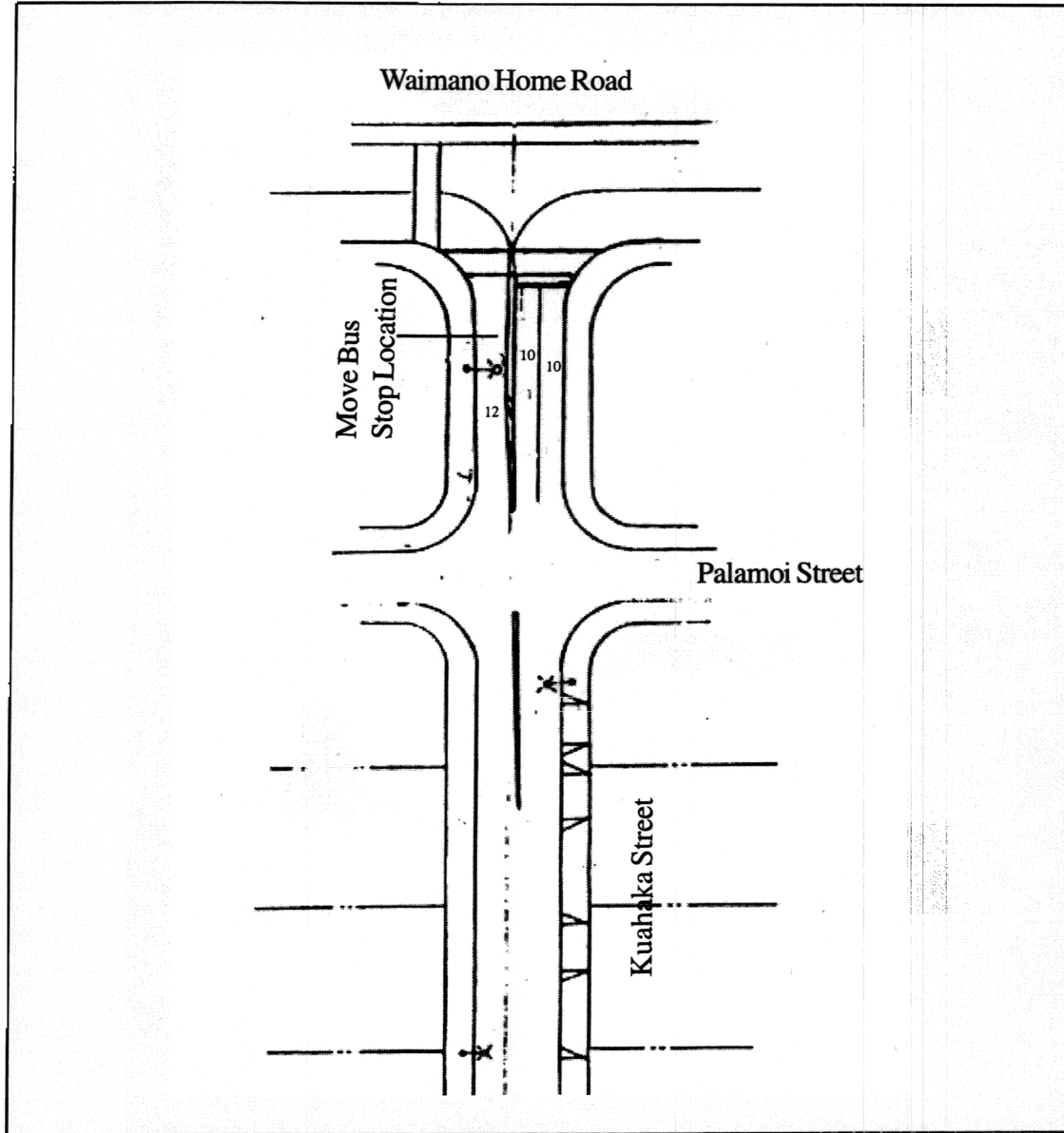


# Conceptual Drawings

By Michael Wallwork, P.E.

## Recommendation #1

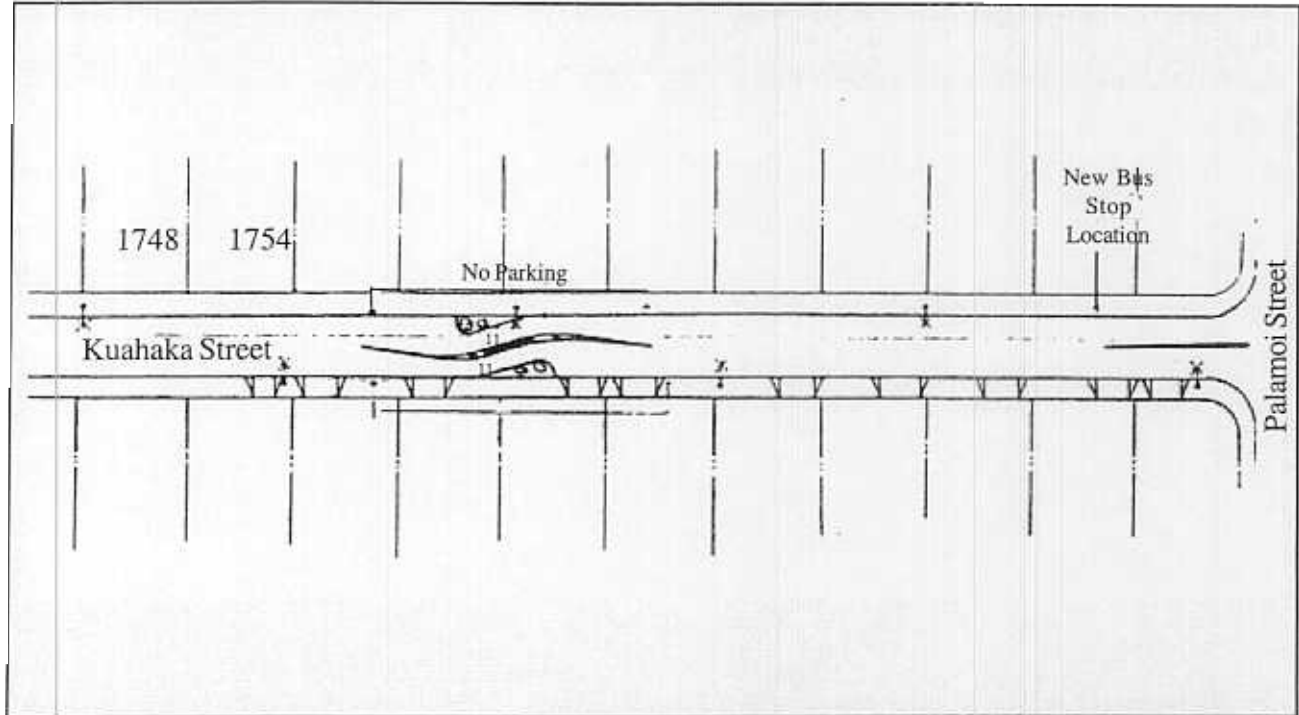
*Gateway at Waimano Home Road and Kuahaka Street*



**#1** At the intersection of Kuahaka Street at Waimano Home Road, install a raised median to control the speed of vehicles turning into Kuahaka Street. Move the bus stop to the far side of Palamoi Street. This will remove the confusion between drivers turning into Kuahaka that are stopped by buses picking up and dropping off passengers. Provide a right turn lane and a left turn lane on Kuahaka Street to improve egress from Kuahaka onto Palamoi Street. The left and right turning lanes should each be 10 feet wide.

## Recommendation #2

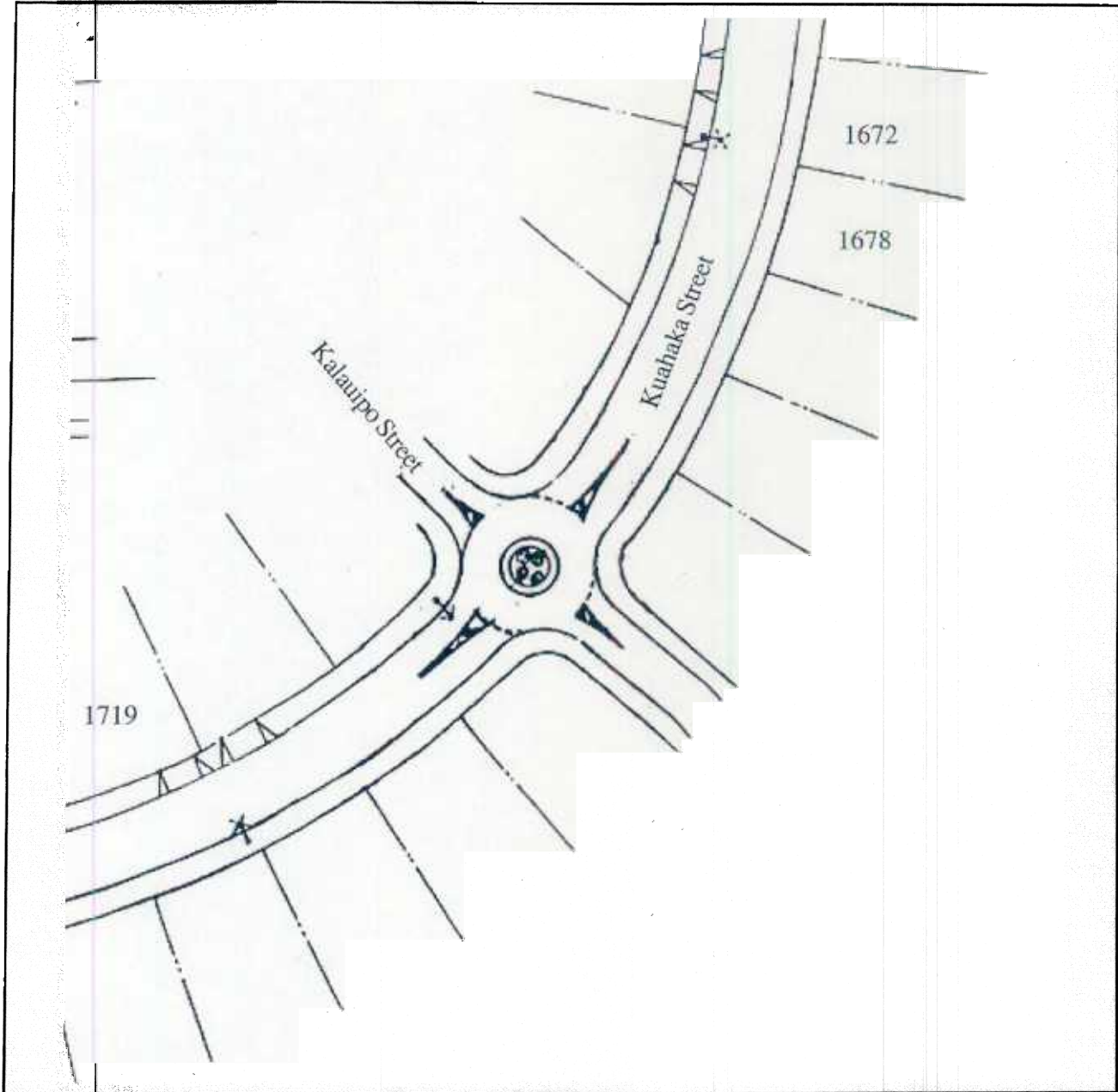
*Angled Slow Point on Kuahaka between Palamoi and Kalauipo*



**#2** Install an Angled Slow Point with a raised median 580 feet from Waimano Home Road. Several people suggested a series of speed tables should be used on Kuahaka Street. However, the recommendation to include angled slow points will avoid discomfort for bus passengers that would occur with the placement of speed tables. The recommended solution will be more widely accepted because a speed table has a major impact on large vehicles but has minimal impact on small vehicles. The speed differential between the large vehicles and the small vehicles is less using angled slow points. Decreased speeds reduce crashes and the severity of any crash. The lane widths traveling through the angled slow point should be 11 feet.

## Recommendation #3

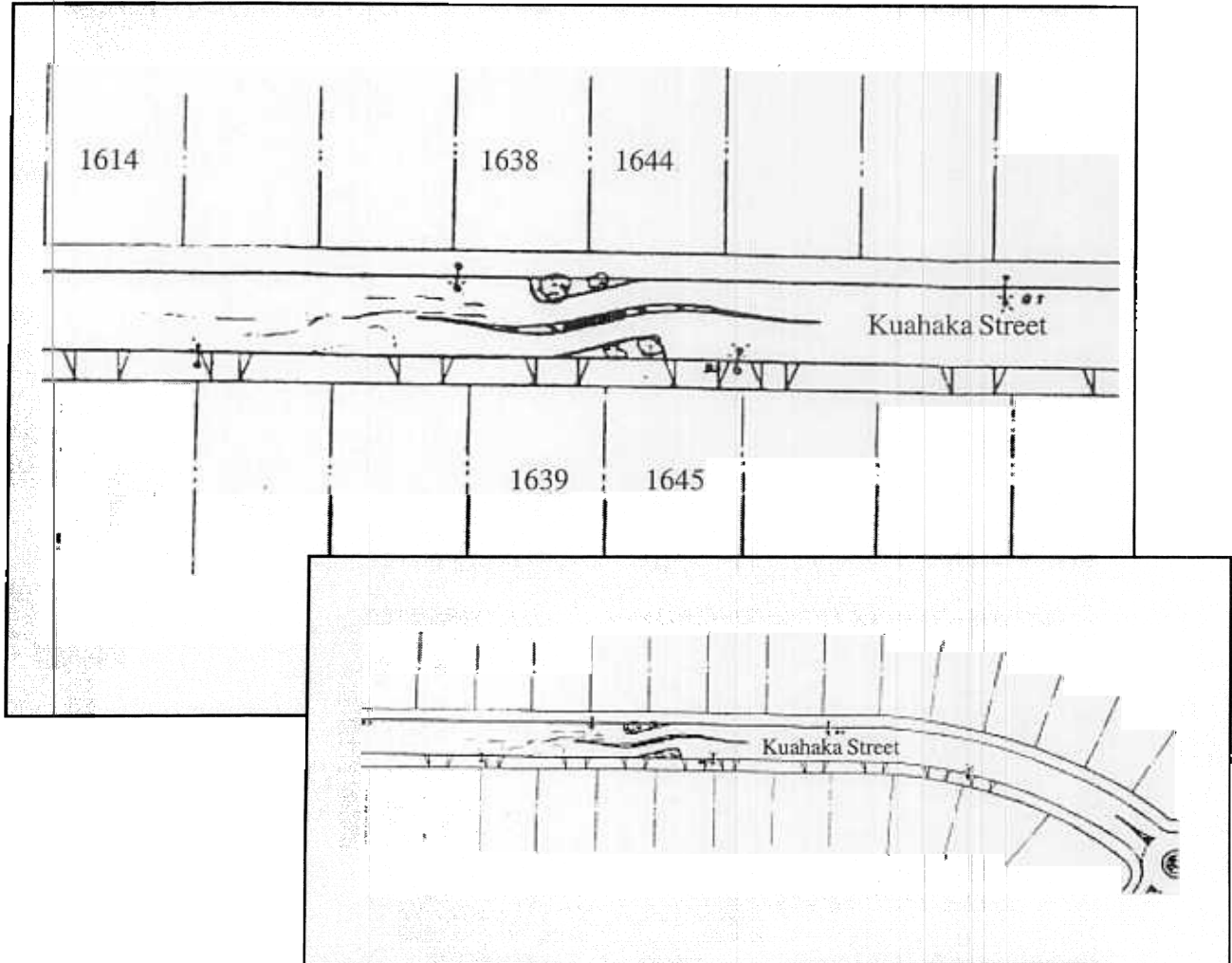
### *Roundabout at Kalauipo and Kuahaka*



**#3** Install a roundabout at the intersection of Kalauipo Street at Kuahaka Street. An intersection speed table was considered as well by participants, but there were several advantages of a roundabout in this location. As mentioned in recommendation #2, it will ensure a smoother ride for passengers in large vehicles. Traffic speeds will be more constant, therefore reducing the noise from acceleration and deceleration that is experienced with vertical changes in the roadway. A roundabout will aesthetically enhance the area with a new opportunity for landscaping.

## Recommendation #4

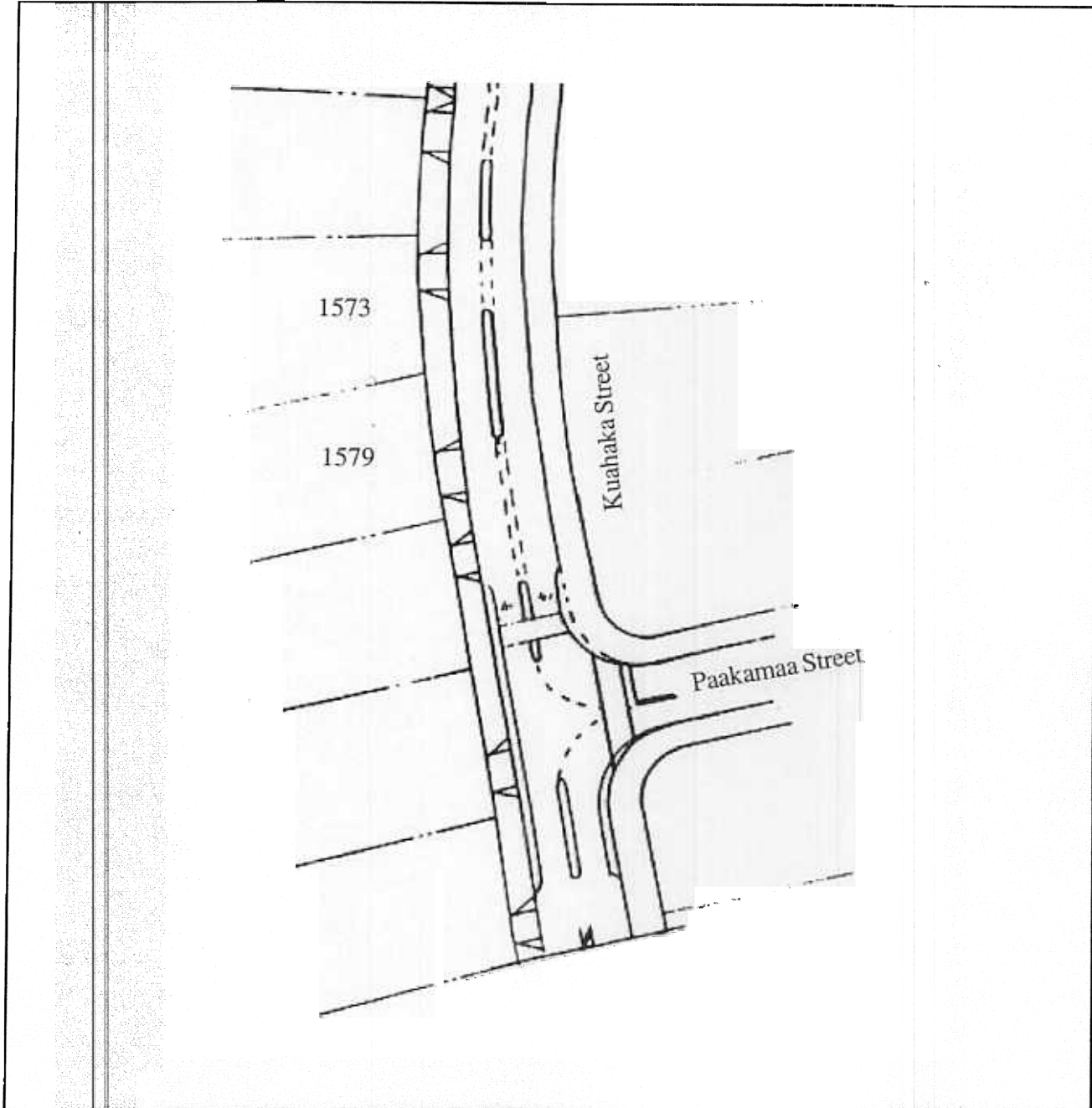
*Angled Slow Point on Kuahaka between Kalauipo Street and Paakamaa Street*



**#4** At the approximate mid point between Kalauipo and Paakamaa Streets on Kuahaka Street, install another angled slow point with a raised median. This treatment can be exactly the same dimensions as the angled slow point in recommendation #2 with 11 foot lanes.

## Recommendation #5

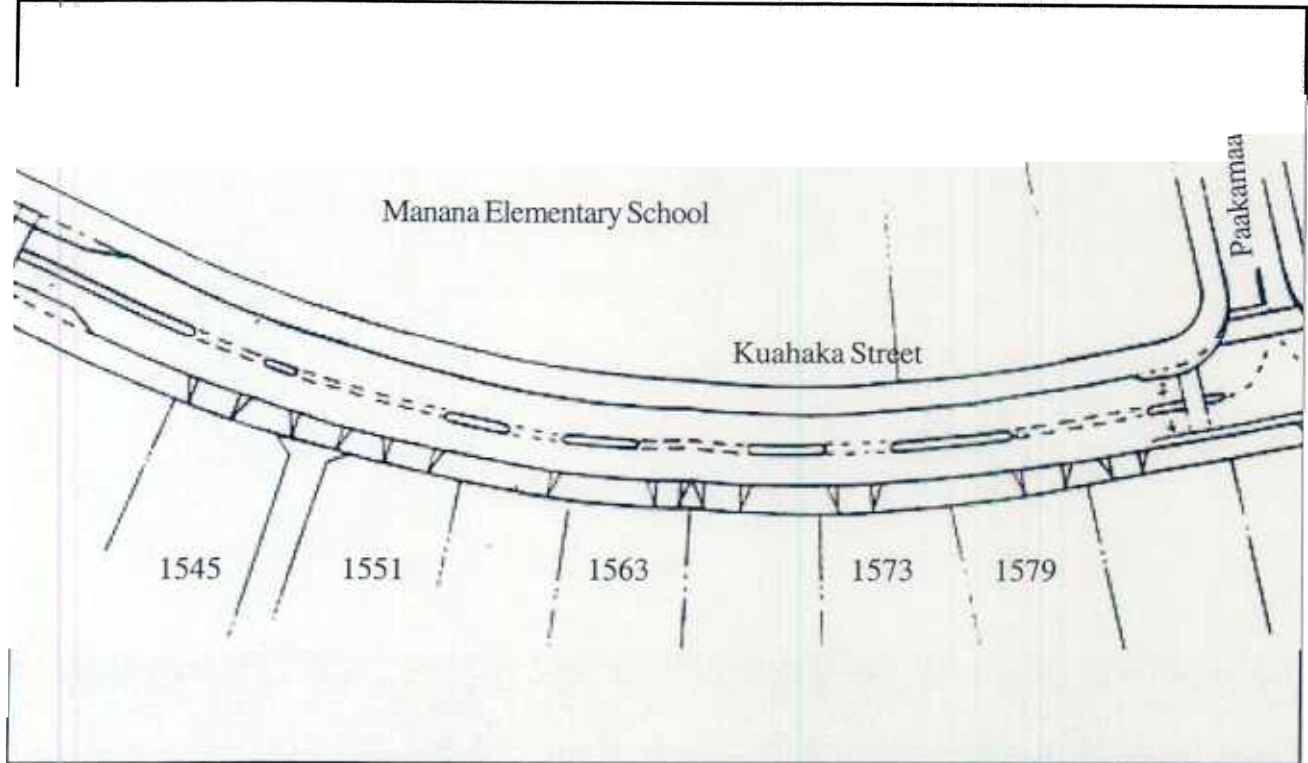
*Curb extension and center medians at Paakamaa Street and Kuahaka Street*



**#5** Install center medians on Kuahaka Street at Paakamaa Street. These can be used as pedestrian refuge islands when crossing Kuahaka Street. The curb extension on the south side of Kuahaka Street will slow traffic traveling through the intersection and provide greater visibility for pedestrians to see oncoming traffic and for motorists to identify pedestrians. The median should be 4 feet wide.

## Recomendation #6

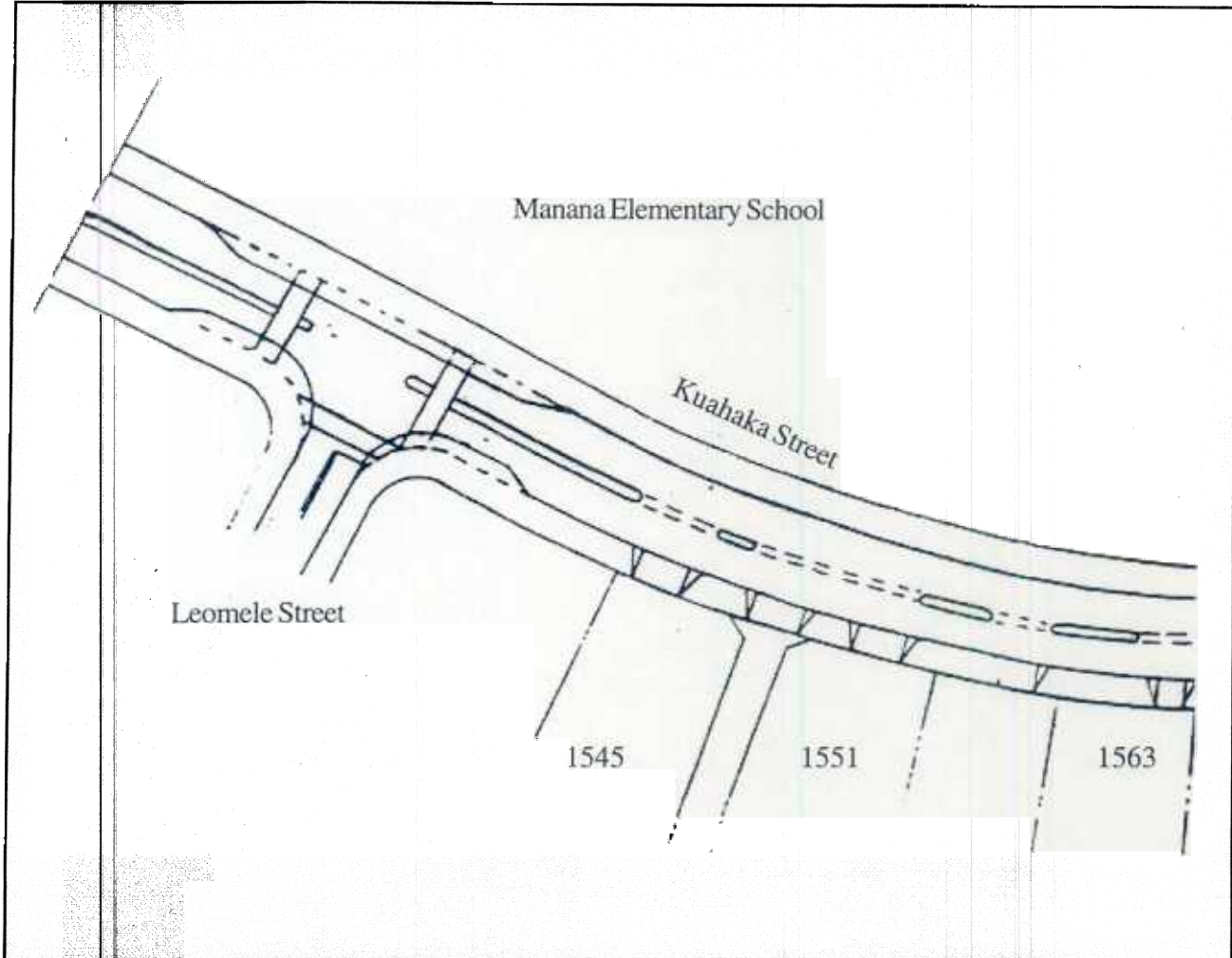
*Raised Median and Parking Lane on Kuahaka between Paakamaa and Leomele.*



#6 Between Paakamaa Street and Leomele Street on Kuahaka Street, install a raised, landscaped, median with a parking lane on the west side of Kuahaka Street. The median width should remain constant at four feet.

## Recomendation #7

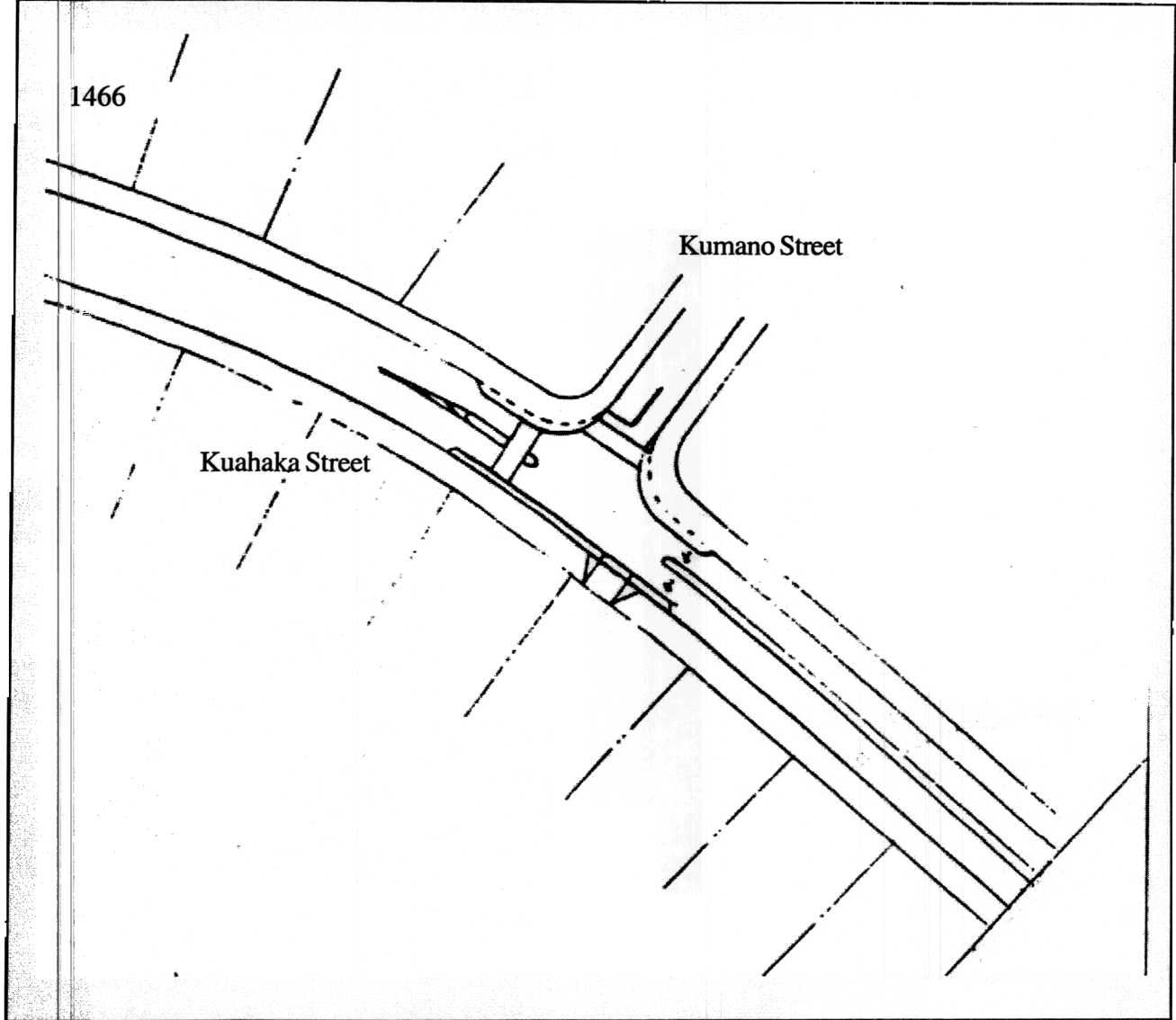
*Curb extension and center medians at Leomele Street and Kuahaka Street*



**#7** Continue center medians on Kuahaka Street to Leomele Street. These can be used as pedestrian refuge islands when crossing Kuahaka Street. The design standards for this intersection will be identical to the design at Kuahaka and Paakamaa Street. The curb extension on the south side of Kuahaka will slow traffic traveling through the intersection and provide greater visibility for pedestrians to see oncoming traffic and for motorists to identify pedestrians. The median should be 4 feet wide.

## Recomendation #8

*Speed table at Kumano Street and Kuahaka Street*

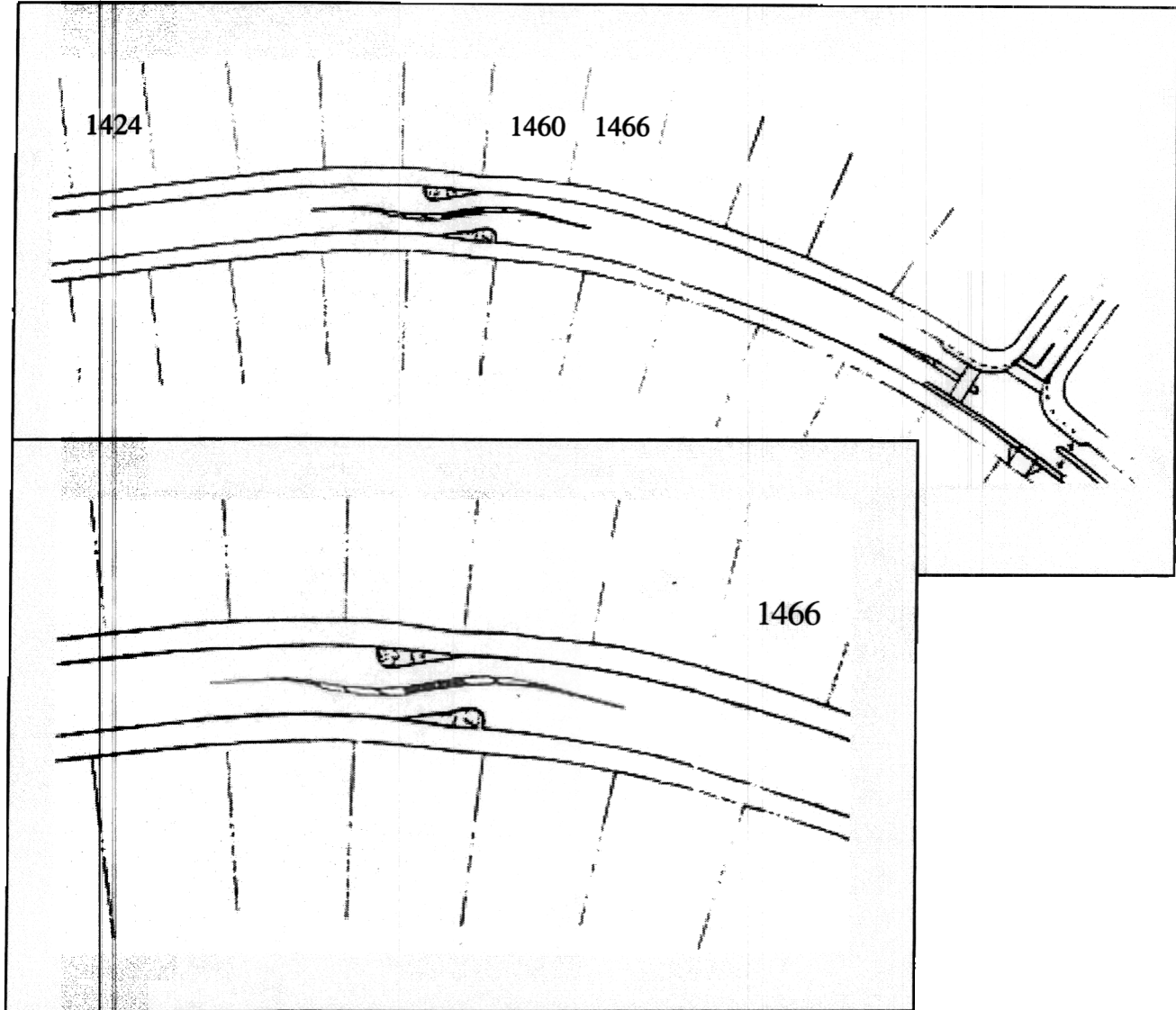


**#8** Install a speed table at Kumano Street. Speeding in front of the Manana Elementary School prompted citizens to suggest a speed table for students who cross the street. This suggestion is supported at this location because Kumano Street is not a major bus route. The intersection should have 11 foot lanes with 4 foot median. North of Kumano Street where the 4 foot median continues on Kuahaka Street, the lanes should be 18 feet to allow for parking.



## Recommendation #9

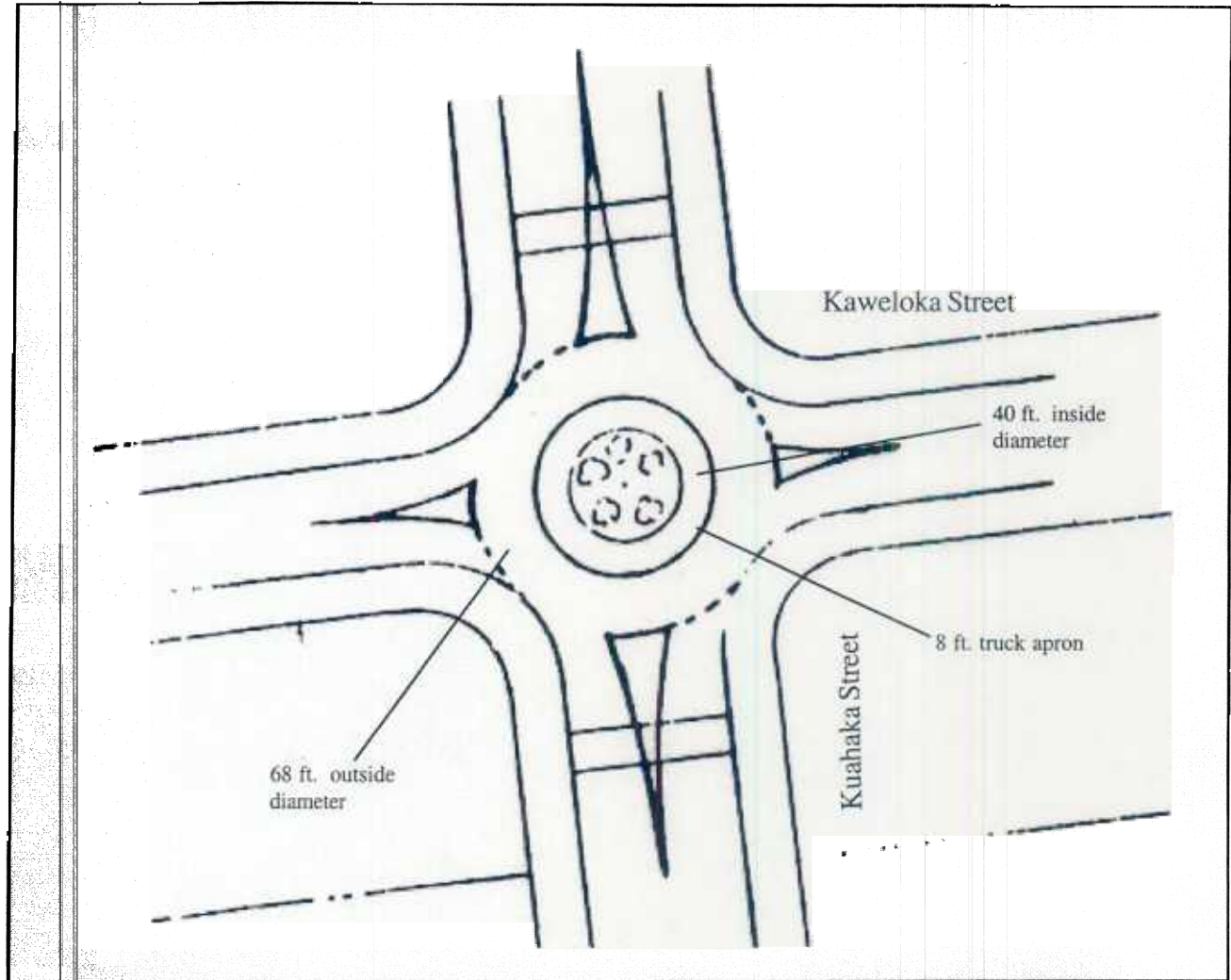
*Angled slow point between Kumano and Kaweloka*



**#9** At the approximate mid-point between Kumano and Kaweloka Streets on Kuahaka Street, install another angled slow point with a raised median. This treatment can be exactly the same dimensions as the angled slow point in recommendation #2 with 11 foot lanes.

## Recommendation #10

*Roundabout at Kaweloka Street and Kuahaka Street.*



**#10** Install a roundabout at Kaweloka Street and Kuahaka Street. This roundabout was suggested by participants during the charrette as a solution for their turning difficulties. It is a good solution because in addition to improving access, providing safer turning maneuvers, and reducing speeds on both streets, it will reduce the large amount of asphalt at the intersection and provide space for landscaping. The outer diameter of this roundabout is 68ft from curb to curb. The center of the roundabout has a twenty-four foot diameter for the landscaped island and an eight foot truck apron all the way around; making the total diameter of the truck apron 40 feet.